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Notice of Allowability	Application No.	Applicant(s)	
	10/043,712	TRYON ET AL.	
	Examiner	Art Unit	
	Mary Kate B. Baran	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 28 February 2005.
2. ☒ The allowed claim(s) is/are 1-83.
3. ☒ The drawings filed on 06 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Amendment

1. This action is responsive to the Amendments filed 28 February 2005. Claims 1-83 are pending. Claims 1, 5, 7-9, 14, 15, 18, 21, 24, 25, 27, 28, 30, 34, 35, 38, 41, 45, 47, 48, 50, 52, 54, 56, 57, 60, 63, 64 and 66 have been amended. Claims 77-83 are new.

Allowable Subject Matter

2. Claims 1-83 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Claims 1-4, 6-23, 25, 26, 29-46, 48, 49, 51-53, 55-67 and 79 are allowable over the prior art because a computer implemented method for predicting failure in a system, the method comprising: calculating a prediction indicative of a potential failure of said system using a pre-selected probabilistic model and said received data the probabilistic model selected to calculate said prediction based on at least the specific load, wherein the probabilistic model utilizes at least one of fast probability methods and simulation techniques is not found, taught or suggested in the prior art of record.

Claims 5 and 77 are allowable over the prior art because a computer implemented method for predicting failure in a system, the method comprising: calculating a prediction indicative of a potential failure of said system using a pre-selected probabilistic model and said received data, the probabilistic model selected to

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calculate said prediction based on at least the specific load, wherein the data indicative of a system response to a specific load comprises a bend angle is not found, taught or suggested in the prior art of record.

Claims 24, 47, 54, 78 and 81 are allowable over the prior art because a computer implemented method for predicting failure in a system, the method comprising: calculating a prediction indicative of a potential failure of said system using a pre-selected probabilistic model and said received data, the probabilistic model selected to calculate said prediction based on at least the specified load, wherein the probabilistic model is selected based on at least one failure mechanism including a failure mechanism described by an equation having at least a capacity section and a demand section is not found, taught or suggested in the prior art of record.

Claims 27, 28, 50, 80, 82 and 83 are allowable over the prior art because an apparatus for monitoring a system, said apparatus comprising: instructions for determining a probable response of said at least one component of said system to the one or more external parameters at the current time, and further using said acquired data, wherein said instructions for determining a probable response of said at least one component of said system to the one or more external parameters at the current time comprises instructions for performing finite element analysis using at least a component configuration and data indicative of the one or more external parameters at the current time is not found, taught or suggested in the prior art of record.

Claims 68-76 are allowable over the prior art of record because a method for predicting failure in a system, wherein during system operation, ascertaining a

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probability of failure for each of a plurality of pre-determined failure mechanisms using a physics based first probabilistic failure model, wherein said probability of failure for each of said failure mechanisms is based at least partially on said received data and said pre-determined failure mechanisms is not found, taught or suggested in the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Kate B. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday - Friday from 9:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

26 April 2005


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800